



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,571	10/15/2003	Mark G. Frei	011738.00150	7155
22908	7590	11/14/2006	EXAMINER	
BANNER & WITCOFF, LTD. TEN SOUTH WACKER DRIVE SUITE 3000 CHICAGO, IL 60606			TOTH, KAREN E	
			ART UNIT	PAPER NUMBER
			3735	

DATE MAILED: 11/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/687,571

Applicant(s)

FREI ET AL.

Examiner

Karen E. Toth

Art Unit

3735

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-98 is/are pending in the application.
- 4a) Of the above claim(s) 9-26, 28-43 and 51-92 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-7, 27, 44-45, 47-~~80~~<sup>49</sup>, 93-94, and 96 is/are rejected.
- 7) ☒ Claim(s) 4, 8, 46, 50, 95, and 97-98 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 6/18/04, 11/23/04, 4/26/04.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election without traverse of claims 1-8, 27, 44-50, and 93-98 in the reply filed on 14 September 2006 is acknowledged. Claims 9-26, 28-43, 51-56, and 57-92 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 14 September 2006.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1-3, 5-7, 27, 44-45, 47-49, 93-94, and 96 are rejected under 35 U.S.C. 102(a) as being anticipated by Fischell (US Patent 6353754).

Regarding claim 1, Fischell discloses a computer-implemented method (column 5, lines 19-21) comprising the steps of receiving a set of at least one signal (column 5, lines 11-18); determining an onset and an end of a neurological event based on the set (column 5, lines 38-41, 53-55); and clustering a set of at least one detection between the onset and end of the neurological event, where the cluster is associated with at least one detection exceeding a predetermined threshold for a first predetermined time duration (column 3, lines 14-18; column 9, lines 51-62). The examiner notes that

Art Unit: 3735

Fischell does not expressly use the term "cluster" – however, since applicant regards a detection cluster as a set of neurological signals that exceed an intensity ratio threshold for a predetermined period of time (paragraph [07] of applicant's specification), the seizure detection disclosed by Fischell may be considered to meet these requirements.

Regarding claim 2, Fischell further discloses that the measure may be an amplitude of the neurological signal (column 9, lines 54-59).

Regarding claim 3, Fischell further discloses determining the onset comprising determining a first neurological signal that is not less than the predetermined threshold of the measure for the first predetermined time duration (column 10, lines 20-29).

Regarding claim 5, Fischell further discloses determining an occurrence of a detection, where the detection is a member of the set of detections (column 9, lines 54-62).

Regarding claim 6, Fischell further discloses recognizing the detection if any signal of the signal set is not less than the predetermined threshold (column 9, lines 54-62).

Regarding claim 7, Fischell further discloses recognizing the detection if the first neurological signal is not less than the predetermined threshold (column 9, lines 54-62).

Regarding claim 27, Fischell further discloses a computer-readable medium having computer-executable instructions for performing the steps of claim 1 (column 4, lines 35-61).

Regarding claim 44, Fischell discloses an apparatus comprising a configuration of monitoring elements (element 12); a processor coupled to the monitoring elements

Art Unit: 3735

(element 40) that is configured to receive a set of at least one signal (column 5, lines 11-18); determine an onset and an end of a neurological event based on the set (column 5, lines 38-41, 53-55); and cluster a set of at least one detection between the onset and end of the neurological event, where the cluster is associated with at least one detection exceeding a predetermined threshold for a first predetermined time duration (column 3, lines 14-18; column 11, lines 51-62).

Regarding claim 45, Fischell further discloses determining the onset comprising determining a first neurological signal that is not less than the predetermined threshold of the measure for the first predetermined time duration (column 10, lines 20-29).

Regarding claim 47, Fischell further discloses that the processor is configured to determine an occurrence of a detection, where the detection is a member of the set of detections (column 9, lines 54-62).

Regarding claim 48, Fischell further discloses recognizing the detection if any signal of the signal set is not less than the predetermined threshold (column 9, lines 54-62).

Regarding claim 49, Fischell further discloses recognizing the detection if the first neurological signal is not less than the predetermined threshold (column 9, lines 54-62).

Regarding claim 93, Fischell further discloses that the detection set may comprise a first and second detection (column 6, lines 20-32).

Regarding claim 94, Fischell further discloses that the first and second detection are separated by less than a predetermined time constant (column 10, lines 40-42).

Regarding claim 96, Fischell further discloses that the detections may be based on signals from different electrodes (column 6, lines 3-4).

***Allowable Subject Matter***

4. Claims 4, 8, 46, 50, 95, and 97-98 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record fails to anticipate or make obvious the method of claim 4 and the structure of claim 46, including determining an event's end by determining that all neurological signals of a set of signals are less than the predetermined threshold for a second predetermined time duration.

The prior art of record fails to anticipate or make obvious the method of claim 8 and the structure of claim 50, including, *inter-alia*, while clustering a set of detection, determining a time interval between an first and second detection, wherein the detections are adjacent; and clustering the detections if the interval is less than a second predetermined duration.

The prior art of record fails to anticipate or make obvious the method of claim 95, including, *inter-alia*, separating the first and second detections by less than a time constraint of 60 seconds.

Art Unit: 3735

The prior art of record fails to anticipate or make obvious the structure of claim 97, including, *inter-alia*, clustering a first and second detection between the onset and end of the neurological event.

The prior art of record fails to anticipate or make obvious the structure of claim 98, including, *inter-alia*, determining an occurrence of a first and second detection, which are members of the set of detections, when determining an occurrence.

### **Conclusion**

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent Application Publication 2005/0197590 to Osorio, which discloses a similar method and device.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karen E. Toth whose telephone number is 571-272-6824. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor, II can be reached on 571-272-4730. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3735

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
ket

